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## NOTICE OF ALLOWANCE AND FEE(S) DUE

26290 7590 11/12/2010

PATTERSON & SHERIDAN, L.L.P.  
3040 POST OAK BOULEVARD  
SUITE 1500  
HOUSTON, TX 77056

EXAMINER

JACKSON, JENISE E

ART UNIT

PAPER NUMBER

2439

DATE MAILED: 11/12/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,416

06/24/2003

Thomas A. Maufer

NVDA P000802

3444

TITLE OF INVENTION: NETWORK PROTOCOL PROCESSING FOR FILTERING PACKETS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$0	\$0	\$1510	02/14/2011

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, Virginia 22313-1450**  
**or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

26290

7590

11/12/2010

**PATTERSON & SHERIDAN, L.L.P.**  
**3040 POST OAK BOULEVARD**  
**SUITE 1500**  
**HOUSTON, TX 77056**

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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nonprovisional

NO

\$1510

\$0

\$0

\$1510

02/14/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
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JACKSON, JENISE E

2439

726-003000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1 \_\_\_\_\_

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 \_\_\_\_\_

3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/603,416	06/24/2003	Thomas A. Maufer	NVDA P000802	3444
26290	7590	11/12/2010	EXAMINER	
PATTERSON & SHERIDAN, L.L.P. 3040 POST OAK BOULEVARD SUITE 1500 HOUSTON, TX 77056			JACKSON, JENISE E	
			ART UNIT	PAPER NUMBER
			2439	
DATE MAILED: 11/12/2010				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 1736 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 1736 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability**

Application No.

10/603,416

Examiner

JENISE E. JACKSON

Applicant(s)

MAUFER ET AL.

Art Unit

2439

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/30/10.
2. ☒ The allowed claim(s) is/are 1-9,14,19,27,29,31,36-41 and 52.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SF/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

***Reasons for Allowance***

1. A Terminal Disclaimer was filed on 8/30/10, and was approved on 10/29/10 in which filing the Terminal Disclaimer obviated a double patenting rejection on Patent 7,359,380.

2. Claims 1-9, 14, 19, 27, 29, 31, 36-41, and 52 are allowable.

3. The following is an examiner's statement of reasons for allowance: listed below:

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. In the art of Networking, prior art fails to disclose or suggest, "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information", and example of prior art that fails to disclose or suggest these limitations is Cheng(7,274,694). Cheng discloses a method of link aggregation allows port-aggregation information to be communicated between stack members to facilitate cross-stack link aggregation. Cheng discloses a destination index (destIndex) is accessed when a packet is received at a port in one of the switches in the stack. Cheng discloses this destIndex is forwarded with the packet when it is sent to other switches in the stack. Cheng discloses the physical port numbers of members of a stack are mapped to global port numbers so that each port in the stack is uniquely identified. Cheng discloses ports in a link-aggregation group are assigned sequential global port numbers which have their least significant bits masked to form

the link-aggregation group port number. Thus, the ports included in the link-aggregation group may be identified as a group of ports or as single ports. Cheng discloses each switch in a stack including ports in a link-aggregation group includes a port map accessed by the destIndex appended to a packet destined for the link aggregation group. The port map identifies which ports in the switch are included in the link aggregation group. Cheng discloses the port selection index is the CRC of either the MAC destination address, MAC source address, IP destination address, or the IP source address or of combinations of these addresses. Cheng fails to disclose or suggest, "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information".

5. Prior art fails to disclose or suggest, "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information", and example of prior art that fails to disclose or suggest these limitations is Kadambi(6,104,696). Kadambi discloses the ARL engine, performs the lookup of appropriate tables within ARL/L3 tables, and VLAN table, to see if the destination MAC address exists in ARL/L3 tables; if the address is not found, but if the VLAN IDs are the same for the source and destination, then ingress submodule will set the packet to be sent to all ports. The packet will then propagate to the appropriate destination address. Kadambi discloses a "source search" and a "destination search" occurs in parallel. Concurrently, the source MAC address of the

incoming packet is "learned", and therefore added to an ARL table within ARL/L3 tables. Kadambi discloses after the packet is received by the destination, an acknowledgement is sent by destination station to source station. Kadambi discloses since the source MAC address of the incoming packet is learned by the appropriate table of B, the acknowledgement is appropriately sent to the port on which A is located. When the acknowledgement is received at port 24a, therefore, the ARL table learns the source MAC address of B from the acknowledgement packet. Kadambi discloses it should be noted that as long as the VLAN IDs (for tagged packets) of source MAC addresses and destination MAC addresses are the same, layer two switching as discussed above is performed. Kadambi discloses L2 switching and lookup is therefore based on the first 16 bytes of an incoming packet. Kadambi discloses for untagged packets, the port number field in the packet is indexed to the port-based VLAN table within VLAN table 23a, and the VLAN ID can then be determined. Kadambi discloses if the VLAN IDs are different, however, L3 switching is necessary wherein the packets are sent to a different VLAN. Kadambi discloses L3 switching, however, is based on the IP header field of the packet. The IP header includes source IP address, destination IP address, and TTL (time-to-live). Kadambi does not disclose "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information".

6. In the prior art of Packet Filtering, "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address

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information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information”, a prior example that fails to disclose or suggest these limitations is Goldberg(2004/0013112). Goldberg discloses packet filtering on packets received over a network based on the sockets associated with the packets. Goldberg discloses upon receiving a packet, a hash calculator computes a hash of the socket associated with the packet. Goldberg discloses the hash result is used to locate a hash pointer in a hash table that identifies a specific list of sessions in a session table. Goldberg fails to disclose or suggest, "obtaining the ART index associated with the MAC destination address from the entry in the address resolution table, wherein the ART index is an index into the state table for locating an entry in the state table associating data structures with NAT address information; and storing the ART index and the packet information in a data structure associated with the state table associating data structures with the NAT address information”.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENISE E. JACKSON whose telephone number is (571)272-3791. The examiner can normally be reached on Increased Flex time, but generally in the office M-Fri(8-4:30)..

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2439

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 6, 2010

/JEJ/

Art Unit 2439

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2439